



Motorola 52nd Street Superfund Site Community Advisory Group (CAG) Meeting



Wednesday, August 3, 2005

6:00 p.m. to 8:00 p.m.

ADEQ - Room 250
1110 West Washington
Phoenix, Arizona

MINUTES

Members in Attendance:

Hildellred Chambers Add
Martha Breitenbach
Jeanne Lindsay
Ruth Ann Marston
Mary Moore
Doug Tucker
Patricia Zermenio

ADEQ Staff in Attendance:

Kris Paschall, ADEQ Project Manager
David Haag, ADEQ Project Hydrologist
Linda Mariner, ADEQ Community Involvement
Coordinator

EPA Staff in Attendance:

Janet Rosati, EPA Remedial Project Manager
Viola Cooper, EPA Community Involvement Coordinator
Nadia Hollan, EPA Remedial Project Manager

Additional Agency Personnel in Attendance:

Veronica Garcia, ADEQ Outreach Unit Manager

ADEQ Contractor:

Laura Malone, LFR Levine Fricke
Bob Forsberg, LFR Levine Fricke
John Kivett, LFR Levine Fricke

Others in Attendance:

Rene Chase Dufault
David Gordon
Carrolette Winstead
Tim Graves
Judy Heywood
Teresa Olmsted
Troy Meyer
Bob Frank
Tom Suriano
Don Stoltzfus
Barbara Murphy
Tom Mooney
Nancy Nesky
Doug Bartlett
Cynthia Parker
Julie Keating
Dr. David Huntley
Michael Long
Samantha Fearn

OU# 07-014

1. Call to Order and Introductions - Linda Mariner, ADEQ

Ms. Mariner, Community Involvement Coordinator for the Arizona Department of Environmental Quality (ADEQ), opened the meeting. All ADEQ staff, EPA staff, Community Advisory Group (CAG) members, Company Representatives, and audience members introduced themselves.

2. Operable Unit 2 – Honeywell

Ms. Troy Meyer, Honeywell's Remediation Director, began the presentation by providing some background of the Honeywell facility. Since the 1990s Honeywell has been working with Motorola and involved in design/construction and operation/maintenance activities at the OU2 system which was installed to contain the plume.

The purpose of this presentation was to focus on the Honeywell facility and the investigation of that facility for potential sources. Ms. Meyer stated that Honeywell planned to attend a meeting with EPA in August to discuss OU3 and the role that Honeywell might be asked to play in the future remedy of that part of the plume.

Ms. Meyer presented a brief background of Honeywell's operation at the 34th Street facility. Honeywell has been at this location since 1951. The facility was involved in the design, manufacture, assembly, testing and repair of aircraft engines. Honeywell had used chlorinated solvents including TCE, (specifically between 1950s to the mid 1980s), and TCA (from the mid 1970s to the mid 1990s). Honeywell had also used a lot of jet fuel (1-2 million gallons per year) to test the engines. The facility employs approximately 4000 people and encompasses approximately 150 acres. Ms. Meyer then turned the presentation over to Bob Frank of CH2MHill and Honeywell's consultant.

Mr. Frank provided a brief overview of the previous investigations at the Honeywell site. Mr. Frank stated that Honeywell had a spill of TCE in 1984 in Area 2 of the facility. The release of TCE into the soil was subsequently cleaned up by excavating the soil. In the beginning of 1992, Honeywell began installing groundwater monitoring wells at the facility. Between 1992 and 1999, which is the initial assessment before the AOC was entered into with ADEQ, 62 groundwater monitoring wells were installed on and off the facility. Soil gas investigations were performed, and site-wide investigations and focused investigations were performed. Geophysical surveys were also performed to look at the bedrock surface, which played an important role in groundwater flow and contaminant transfer. Honeywell has also been collecting water levels since 1992. Some of the wells had gone dry due to the declining water table. In 1998, Honeywell initiated a voluntary soil vapor extraction system to clean up the soil in the area of Building 140.

In 1999, Honeywell entered into the AOC with ADEQ. Since entering into the AOC and up to July 2005, the following actions had been taken:

- 91 additional monitoring wells were installed on and off the property.
- A total of 153 monitoring wells were installed by Honeywell.
- Honeywell also installed 24 soil vapor monitoring wells to investigate the vadose zone. Another site-wide soil gas investigation was performed in 2002.
- Honeywell currently performs semi-annual groundwater sampling.
- Honeywell has submitted a UST Corrective Action Plan to ADEQ to address the free product and hydrocarbon contamination.
- Honeywell also found mercury at Building 301. The mercury was cleaned up by excavating the soil.

Mr. Frank proceeded to illustrate areas mentioned in his portion of the presentation on a map. At this point, Mr. Frank turned the presentation over to Dr. David Huntley, a consultant to Honeywell, to discuss some of the results and groundwater flow at the facility.

Dr. Huntley indicated that there was a buried bedrock rise located to the north of the Honeywell facility. This bedrock rise had a significant influence on groundwater flow direction. Tied in with the bedrock rise, there had been a declining groundwater table elevation. With this decline, the importance of this bedrock rise increased. Another issue was the periodic recharge of the Salt River that would temporarily change the direction of groundwater flow.

Dr. Huntley provided an animation to help visualize the bedrock rise issue. Dr. Huntley stated that movement of groundwater in the northeast area of the site was influenced from the bedrock rise. There was a path for groundwater to move around the northern end of the bedrock rise. Groundwater also flowed through the

southern saddle (which lies directly beneath the Honeywell facility). There was also a central saddle which is north of Honeywell.

Dr. Huntley provided some hydrographs to depict the declining groundwater elevations and stated that the groundwater elevations have declined between 20-40 feet during the period of 1992 to 2005. This decline, along with the bedrock rise, influenced the groundwater flow. Dr. Huntley stated that in 1992, the bedrock rise did not have much affect on groundwater flow. In 1997, the bedrock was more exposed and it influenced groundwater flow. The groundwater was no longer allowed to flow over the bedrock rise, but was able to flow to the north and through the central and southern saddle. The bedrock was acting as more of a barrier than in 1992. In 2002, the water table continued to decline and the bedrock rise was now much more of a barrier. Groundwater can now only flow around the rise to the north or through the southern saddle. He reviewed the data and contour graphs as part of his presentation.

Dr. Huntley concluded his presentation stating that regionally the groundwater flowed from the northeast to the southwest and encountered the bedrock and flow was diverted around the bedrock feature. Groundwater flow path initiated within Honeywell would flow southwesterly and would flow through the southern saddle. At times of higher groundwater elevations, some of the flow would go through the central saddle. Currently, this is not the case due to the declining water table; the central saddle does not exist and the direction of flow is south-southwest through the southern saddle. Salt River recharge temporarily changed the direction of the groundwater flow to a more northerly direction which was west or slightly north of west.

Dr. Huntley turned the presentation back over to Bob Frank to discuss the distribution of solutes. Mr. Frank discussed a plume map that was created by ADEQ from the fourth quarter of 1992. Honeywell added a contour interval and depicted the bedrock rise. Mr. Frank indicated that in 1992 there was an upgradient TCE source in the heart of the plume. Mr. Frank presented a map that represented data from the first 9 wells that were installed on the Honeywell property. Concentrations showed Honeywell's contribution of TCE to the groundwater. The same type of map for 2003 indicated that the concentrations had decreased in the heart of the plume. Mr. Frank indicated one portion of the free product jet fuel plume contained low concentrations of TCE in the groundwater, but the levels were not the magnitude as seen in other areas.

Mr. Frank stated that Honeywell has had releases of CVOCs into the ground and has impacted the groundwater. In addition, Honeywell has had releases of jet fuel that have also impacted the groundwater. Many of the sources of the chlorinated solvents happened to be located in the areas of the jet fuel releases. Petroleum hydrocarbons affect how the chlorinated solvents degrade in addition to how they end up in the groundwater. TCE breaks down in the presence of the petroleum hydrocarbons into 1,1-DCE to vinyl chloride to ethene. The TCE breaks down much faster with the presence of the hydrocarbons. Mr. Frank stated in order to look at Honeywell's contribution to the plume you would have to look at the vinyl chloride concentrations to show where that contribution occurred. To summarize, the presence of the jet fuel does affect the TCE distribution. In Areas 1 and 2, there was TCE in the jet fuel free product and it was known that TCE was released in that area. TCE had also been detected in other areas of the site outside of the free product areas. In these areas, TCE had not degraded to vinyl chloride.

A CAG member inquired if tests have been done to determine if chemicals were trapped on top of the bedrock, which would lead to the potential of more releases should the water table rise. Mr. Frank stated that soil samples had been collected above the water level and there tended to be concentrations of petroleum hydrocarbons and not TCE since chlorinated compounds didn't stay in the soil. Honeywell did use TCA, and TCA was not seen in the jet fuel because it breaks down much faster to 1,1-DCA, which breaks down further to chloroethane then to ethane. There was one detect for TCA in the groundwater.

A CAG member inquired about the breakdown process between TCE and TCA. Mr. Frank stated that the breakdown of TCA was fairly faster than TCE in the presence of petroleum hydrocarbons. 1,1-DCA is more persistent in the environment than TCA; and 1,1-DCE is more persistent than both 1,1-DCA and TCA.

In summary, Mr. Frank explained 1) TCE and the breakdown products, 2) TCA and its breakdown products, 3) Honeywell's contribution to the groundwater contamination, and 4) what those plumes looked like. He stated that there was a large solvent plume, and the regional plume originated upgradient of the Honeywell facility. Evidence of Honeywell's contribution can be detected by the fact that there is: 1) TCE in the jet fuel plume as well as downgradient from the jet fuel plume; 2) a 1,1-DCA plume emanating from the Honeywell facility that came from the breakdown of Honeywell's TCA; 3) vinyl chloride in the area around the jet fuel plume that came from the breakdown of Honeywell's TCE; and 4) 1,1-DCE in areas away from the free product that came from the breakdown of TCA that had not come in contact with the jet fuel. Honeywell had contributed to the regional plume indicated by the presence of TCE away from the fuel and in the fuel; 1,1-DCA in the fuel area coming from Honeywell's TCA; and vinyl chloride in the area of the fuel coming from Honeywell's TCE. In addition, 1,1-DCE is present from the breakdown of Honeywell's TCE and TCA.

Soil vapor data from 1994 showed high concentrations of CVOCs and TCA in the Building 140 area. Honeywell installed a SVE system to clean up the area.

A general discussion of soil vapor investigations was conducted.

3. Julie Keating – Health Assessment

A risk assessment/health assessment was performed as part of the Remedial Investigation. This process looked at the contamination and the potential for contamination. It included:

- Potential exposure pathways
- A look at chemicals of potential concern (CPC) – those that have risk
- Overall Honeywell facility processes
- CPC in soil
- CPC in vapor in structures
- CPC in groundwater

As part of the risk assessment, it was determined that no one was drinking the groundwater – therefore there was no risk of exposure to groundwater. The risk assessment was performed using a standardized process following EPA guidance. All chemicals, chemical data and receptors required by EPA were studied.

A CAG member asked if they compared the occupational screening level to something that might be appropriate to a family with small children or a pregnant woman. Ms. Keating responded that they didn't look at children for the indoor air (onsite), but did evaluate it for the off-site.

A CAG member asked if there was any soil gas or health assessment done for subsurface to pavement where current utility location/relocation is occurring. Honeywell responded that no soil gas had been conducted outside the Honeywell property.

Ms. Meyer provided the following information on further actions:

- Following Motorola's ongoing effort to determine if a problem existed with the soil vapor intrusion pathway that needed to be considered, Honeywell may have to do a similar study. ADEQ had asked

Honeywell to hold off on that until they got the results from Motorola. Motorola's study might negate any study by Honeywell.

- Honeywell will do further study of the chlorinated hydrocarbon concentrations at the Honeywell facility around the bedrock rise.
- Aquifer testing on the western side of the rise in the basin fill will be done to better understand the hydraulic characteristics of the area.
- Honeywell will work with ADEQ to look at the eastern unbounded side to determine if there is a continuing source or other PRPs.
- Honeywell will replace some of the dry monitoring wells and are developing a work plan.
- Honeywell will identify other potential sources on Honeywell's property, perform a feasibility study, identify treatment technologies, and make recommendations.
- Honeywell is working with EPA to determine Honeywell's contribution of time, money, or resources to the work in OU3.

Questions from the CAG members involved TCE concentrations with respect to groundwater flow, and Honeywell indicated that was an area that Honeywell needed to look into further. There was also discussion on the degradation of TCE to DCE and the degradation process.

A CAG member asked whether a mass balance had been conducted on the quantities of releases and where they occurred. If not, was an estimate planned? Honeywell responded that a mass balance had not been done, and Honeywell was dealing with what existed at this point. They were focusing on the "here and now" versus a mass balance of historical releases, and they had not planned to do a mass balance. Comments from ADEQ may require this to be done.

There was concern from a CAG member that there were chemicals trapped on the bedrock and when the water table rose there would be an increase in the contamination. Honeywell responded by providing information on the soil issues.

Several questions were raised about the contour maps and the types of changes to vertical exaggeration. Honeywell provided additional information on the contour maps.

4. CALL TO PUBLIC

Ms. Mariner inquired if there were any additional questions regarding the presentation.

Tom Suriano of Freescale made a statement indicating frustration with Honeywell's investigation. Mr. Suriano stated that he did not believe that Honeywell had met the requirements of the Administrative Order on Consent and that Freescale submitted comments to ADEQ regarding Honeywell's RI. He stated that the investigation was incomplete in several areas and that it had taken too much time (17 years) since the first request from ADEQ to get to this point. He urged ADEQ to pursue this issue with Honeywell in a timely manner.

Ms. Meyer stated that it was apparent from the amount of comments received from ADEQ that there had been miscommunication on the intent of the report.

A CAG member asked how Honeywell and CH2MHill could have such a miscommunication on the requirements of the RI. Ms. Meyer indicated that there had been several meetings between ADEQ and Honeywell, and that she understood the words "emanating" and "originating" in the consent order to be used as current terms; it was never clear to Honeywell that the expectation was to identify historic releases.

A CAG member asked if the LEL levels for methane have been looked at. Honeywell indicated that vapor monitoring included methane.

Mr. Tucker asked about methane intrusion and the affect on the City of Phoenix sewer system and if there had been any problems. He also asked if sampling had been conducted in the current excavations that were occurring outside the Honeywell property for utility relocation. Honeywell stated they would look into this issue.

5. Future Meeting Plans

The meeting was concluded with Ms. Mariner reminding the CAG that the next meeting was scheduled for August 11, 2005 to hear ADEQ's official comments and response to Honeywell's FRI Report.